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10/684,043	10/10/2003	Allan O. Devantier	HI09049USU (P03061US)	3265
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THE ECLIPSE GROUP LLP 6345 Balboa Blvd., Suite 325 Encino, CA 91316			EXAMINER MONIKANG, GEORGE C	
			ART UNIT	PAPER NUMBER
			2614	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/684,043	DEVANTIER ET AL.	
	Examiner	Art Unit	
	GEORGE MONIKANG	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 November 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 1-12, 14-27, 31-56, 58-71 and 73-86 is/are pending in the application.
- 5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1-12, 14-27, 31-56, 58-71, 73-86 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) ☒ Notice of References Cited (PTO-892) | 4) ☐ Interview Summary (PTO-413) |
| 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) ☐ Information Disclosure Statement(s) (PTO/SB/08) | 5) ☐ Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) ☐ Other: ____. |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/8/2010 has been entered.

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1, 12, 21, 23, 53, 73-74 (Application No. 10/684,043, hereinafter referred to as '043) are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 12, 17, 27 of copending (Application No. 10/684,152, hereinafter referred to as '152). Although the conflicting claims are not identical, they are not patentably distinct from each other.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim 1 of 10/684,152	Claim 1 of 10/684,043
An audio system comprising at least one correction factor , the correction factor selected based on a method comprising: generating acoustic signals from at least one loudspeaker placed at potential loudspeaker locations; recording transfer functions for the generated acoustic signals at a plurality of listening positions; determining a plurality of potential correction factors; modifying the transfer functions based on the potential correction factors so that predicted transfer functions	An audio system comprising at least one loudspeaker, at least one loudspeaker location for the loudspeaker being selected based on a method for selecting the at least one loudspeaker location from potential loudspeaker locations, the method comprising: determining the potential loudspeaker locations; generating acoustic signals from at least one loudspeaker placed at the potential loudspeaker locations; recording transfer functions at a plurality of listening positions

are generated for each of at least two of the plurality of listening positions for each of the plurality of potential correction factors, the predicted transfer functions representing simulations for the potential correction factors; accessing a criterion by which to statistically analyze the predicted transfer functions; statistically analyzing using the criterion across at least one frequency of the predicted transfer functions for the at least two of the plurality of listening positions; and selecting a correction factor to improve for the criterion at the at least two of the plurality of listening positions based on the statistical analysis.	for the generated acoustic signals; modifying the transfer functions based on the potential loudspeaker locations so that predicted transfer functions are generated at at least two of the plurality of listening positions for each of the potential loudspeaker locations, the predicted transfer functions representing simulations for the potential loudspeaker locations; accessing a criterion by which to statistically analyze the predicted transfer functions, statistically analyzing using the criterion across at least one frequency of the predicted transfer functions for the at least two of the plurality of listening positions; and recommending at least one loudspeaker location from the potential loudspeaker locations in order to improve for the criterion at the at least two of the plurality of listening positions based on the statistical analysis.
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The '152 claims 1, 12, 17, 27 attempts to select correction factors while the 1, 12, 21, 23, 53, 73-74 of '043 attempts to select loudspeaker locations. The Rabinowitz et al system discloses determining a potential loudspeaker location based on recorded transfer functions (Rabinowitz et al, figs. 1, 5: 14 & 16; fig. 3: 20; fig. 4: 48; paras 0010, 0021, 0027: microphone and speakers in various locations generate and pick up sounds from said various locations) and also determining the correction based on recorded transfer functions (Rabinowitz et al, fig. 4: 48; para 0031: equalization pattern). Therefore, it would have been obvious for '152 or '043 to be modified with Rabinowitz et al who teaches determining a potential loudspeaker location based on recorded transfer functions (for '152) and determining the correction based on recorded transfer functions for '043 for the purpose of making both '152 and '043 more dynamic.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1-12, 14-27, 31-56, 58-71 & 73-86 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rabinowitz et al, US Patent Pub. 20030179891 A1, in view of Tagami et al, US Patent 5745586.

Re Claim 1, Rabinowitz et al discloses an audio system comprising at least one loudspeaker, at least one loudspeaker location for the loudspeaker being selected based on a method for selecting the at least one loudspeaker location from potential loudspeaker locations in an audio system comprising: determining the potential loudspeaker locations (*fig. 4: 47-52*); generating acoustic signals from at least one loudspeaker placed at the potential loudspeaker locations (*figs. 1, 5: 14 & 16; fig. 3: 20; paras 0010, 0021, 0027: microphone and speakers in various locations generate and pick up sounds from said various locations*); recording transfer functions at a plurality of listening positions for the generated acoustic signals (*figs. 1, 5: 14 & 16; fig. 3: 20; paras 0010, 0021, 0027: microphone and speakers in various locations generate and pick up sounds from said various locations*); modifying the transfer functions based on the potential loudspeaker locations so that predicted transfer functions are generated at at least two of the plurality of listening positions for each of the potential loudspeaker locations, the predicted transfer functions representing simulations for the potential loudspeaker locations (*fig. 4: 48 & 52; paras 0030-0031: transfer function is calculated for at least two positions and checked for validity so that if the transfer function is not*

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valid, adjustments are made and the function is calculated again until valid); and recommending at least one loudspeaker location from the potential loudspeaker locations to improve for the criterion at the at least two of the plurality of listening positions based on a statistical analysis (fig. 4: 56: frequency response is calculated across numerous locations after which the data generated is combined and an equalization pattern is predicted based on this information and used to obtain the sweet spot/loudspeaker ; (where statistically will be broadly interpreted as collection of data)); but fails to disclose **accessing a criterion** by which to statistically analyze the predicted transfer functions; statistically analyzing using the criterion across at least one frequency of the predicted transfer functions for the at least two of the plurality of listening positions. However, Tagami et al discloses a system that uses the concept of **accessing a criterion** (Tagami et al, col. 8, lines 17-53: respective sound quality) by which to statistically analyze a predicted signal across at least on frequency (Tagami et al, figs. 3-4; col. 7, lines 50-67; col. 8, lines 17-53: the equalized audio function is analyzed by utilizing various criterion as disclosed in figs. 3-4). It would have been obvious to modify the statistical analysis of Rabinowitz et al with the concept of accessing a criterion by which to statistically analyze a predicted signal across at least on frequency as taught in Tagami et al (Tagami et al, figs. 3-4; col. 7, lines 50-67; col. 8, lines 17-53: the equalized audio function is analyzed by utilizing various criterion as disclosed in figs. 3-4) for the purpose of enabling a listener to adjust an equalizer to obtain desired sound quality.

Re Claim 2, the combined teachings of Rabinowitz et al and Tagami et al disclose the method of claim 1, where determining the potential loudspeaker locations comprises determining a discrete number of potential loudspeaker locations (Rabinowitz et al, para 0031).

Re Claim 3, the combined teachings of Rabinowitz et al and Tagami et al disclose the method of claim 1, where modifying the transfer functions comprises accessing the transfer functions for each listening position corresponding to a combination of potential loudspeaker locations (Rabinowitz et al, para 0031) and combining the accessed transfer functions (Rabinowitz et al, para 0031).

Re Claim 4, the combined teachings of Rabinowitz et al and Tagami et al disclose the method of claim 1, where the statistical analysis is across a plurality of frequencies of the predicted transfer functions (Rabinowitz et al, para 031).

Re Claim 5, the combined teachings of Rabinowitz et al and Tagami et al disclose the method of claim 4, but fails to disclose where the plurality of frequencies are less than 120 Hz.

However, such limitation is the inventor's preference thus it would have been obvious for Rabinowitz et al and Tagami et al to modify their method for selecting at least one loudspeaker location for the motivation of flattening the loudness of the sound in low frequencies.

Re Claim 6, which further recites, "where the statistical analysis is selected from the group consisting of mean spatial variance, mean spatial standard deviation, mean spatial envelope, and mean spatial maximum average." Rabinowitz et al and Tagami et

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al do not explicitly disclose the group consisting of mean spatial variance, mean spatial standard deviation, mean spatial envelope, and mean spatial maximum average as claimed. Official notice is taken that both the concept and advantages of providing the group consisting of mean spatial variance, mean spatial standard deviation, mean spatial envelope, and mean spatial maximum average is well known in the art. It would have been obvious to use the group consisting of mean spatial variance, mean spatial standard deviation, mean spatial envelope, and mean spatial maximum average since they are variations of standard deviation commonly used for statistical analysis.

Claims 7-8, 17-19, 22, 33, 36, 39, 60, 62, 64, 76, 78, 82-83 & 85-86 have been analyzed and rejected according to claim 6.

Re Claim 9, the combined teachings of Rabinowitz et al and Tagami et al disclose the method of claim 1, where selecting at least one loudspeaker location comprises automatically recommending a plurality of potential loudspeaker location combinations and manually selecting one of the plurality of potential loudspeaker location combinations (Rabinowitz et al, para 0031).

Re Claim 10, the combined teachings of Rabinowitz et al and Tagami et al disclose the method of claim 1, further comprising determining potential correction factors; where modifying the transfer functions is based on the potential correction factors; and further comprising selecting at least one correction factor from the potential correction factors based on the statistical analysis of the predicted transfer functions (Rabinowitz et al, para 0011).

Re Claim 11, the combined teachings of Rabinowitz et al and Tagami et al disclose the method of claim 1, where the audio system may comprise different types of loudspeakers; where generating acoustic signals comprises placing the different types of loudspeakers in the potential loudspeaker locations (Rabinowitz et al, para 0021); where modifying the transfer functions is based on the different types of speakers (Rabinowitz et al, fig. 4: 47-52); and further comprising selecting at least one type of speaker based on the statistical analysis (Rabinowitz et al, claim 1).

Claim 12 has been analyzed and rejected according to claim 1.

Claim 14 has been analyzed and rejected according to claim 3.

Claim 15 has been analyzed and rejected according to claim 4.

Claims 16, 27, 48 & 56 have been analyzed and rejected according to claim 5.

Re Claim 20, the combined teachings of Rabinowitz et al and Tagami et al disclose the machine readable medium of claim 12, further comprising instructions for recommending a plurality of potential loudspeaker location combinations (Rabinowitz et al, fig. 1: 14-1 through 14-6; fig. 4: para 0021).

Claims 21 & 23 has been analyzed and rejected according to claim 1.

Claim 24 has been analyzed and rejected according to claim 2.

Re Claim 25, the combined teachings of Rabinowitz et al and Tagami et al disclose the method of claim 23, where recording transfer functions comprises: generating acoustic signals from at least one loudspeaker placed at each of the potential loudspeaker locations (Rabinowitz et al, fig. 4: 47-52); and recording the

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transfer functions at the listening position for the generated acoustic signals (Rabinowitz et al, fig. 4: 47-52).

Claim 26 has been analyzed and rejected according to claim 3.

Re Claim 31, the combined teachings of Rabinowitz et al and Tagami et al disclose the audio system of claim 23, where the statistical analysis indicates consistency of the predicted transfer functions for the plurality of listening positions (Rabinowitz et al, para 0031).

Re Claim 32, the combined teachings of Rabinowitz et al and Tagami et al disclose method of claim 31, where the potential loudspeaker locations for a predicted transfer function are selected when the predicted transfer function more consistent than other predicted transfer functions (Rabinowitz et al, para 0031).

Re Claim 34, the combined teachings of Rabinowitz et al and Tagami et al disclose the method of claim 23, where the statistical analysis indicates flatness for the predicted transfer functions (Rabinowitz et al, para 0031).

Claim 35 has been analyzed and rejected according to claims 32 and 34.

Claims 37 & 38 have been analyzed and rejected according to claim 31.

Re Claim 40, the combined teachings of Rabinowitz et al and Tagami et al disclose the method of claim 23, where the statistical analysis indicates efficiency of the predicted transfer functions (Rabinowitz et al, para 0031).

Re Claim 41, the combined teachings of Rabinowitz et al and Tagami et al disclose the method of claim 40, where efficiency is examined for predetermined frequencies (Rabinowitz et al, para 0021).

Re Claim 42, the combined teachings of Rabinowitz et al and Tagami et al disclose the method of claim 41, where the potential loudspeaker locations for a predicted transfer function are selected when the predicted transfer function has greater efficiency than other predicted transfer functions (Rabinowitz et al, para 0031).

Re Claim 43, the combined teachings of Rabinowitz et al and Tagami et al disclose the method of claim 23, where the statistical analysis comprises acoustic efficiency (Rabinowitz et al, fig. 1: 19; para 0031).

Re Claim 44, the combined teachings of Rabinowitz et al and Tagami et al disclose the method of claim 43, where the acoustic efficiency comprises a mean overall level divided by a total drive level for the predicted transfer function (Rabinowitz et al, fig. 1: 19; para 0031).

Claim 45 has been analyzed and rejected according to claim 42.

Re Claim 46, the combined teachings of Rabinowitz et al and Tagami et al disclose the method of claim 23, where the statistical analysis indicates output of predicted transfer functions (Rabinowitz et al, para 0031).

Re Claim 47, the combined teachings of Rabinowitz et al and Tagami et al disclose the method of claim 46, where output is examined for predetermined frequencies (Rabinowitz et al, para 0021).

Claim 49 has been analyzed and rejected according to claim 42.

Re Claim 50, the combined teachings of Rabinowitz et al and Tagami et al disclose the method of claim 23, where the statistical analysis comprises mean overall level (Rabinowitz et al, para 0031).

Re Claim 51, the combined teachings of Rabinowitz et al and Tagami et al disclose the method of claim 23, where selecting at least one loudspeaker location based on the statistical analysis comprises selecting at least one of the potential loudspeaker locations (Rabinowitz et al, para 0031).

Re Claim 52, the combined teachings of Rabinowitz et al and Tagami et al disclose the method of claim 51, where selecting at least one of the potential loudspeaker locations comprises selecting multiple loudspeaker locations (Rabinowitz et al, para 0031).

Claim 53 has been analyzed and rejected according to claim 1.

Re Claim 54, the combined teachings of Rabinowitz et al and Tagami et al disclose the machine readable medium of claim 53, where the instructions for recording potential loudspeaker locations comprise instructions for receiving input identifying the potential loudspeaker locations (Rabinowitz et al, figs. 3, 4).

Claim 55 has been analyzed and rejected according to claim 3.

Claim 58 has been analyzed and rejected according to claim 31.

Claim 59 has been analyzed and rejected according to claim 31.

Claim 61 has been analyzed and rejected according to claim 34.

Claim 63 has been analyzed and rejected according to claim 31.

Claim 65 has been analyzed and rejected according to claim 40.

Claim 66 has been analyzed and rejected according to claim 43.

Claim 67 has been analyzed and rejected according to claim 46.

Claim 68 has been analyzed and rejected according to claim 1.

Re Claim 69, the combined teachings of Rabinowitz et al and Tagami et al disclose the machine readable medium of claim 68, where a plurality of statistical analyses are performed (Rabinowitz et al, para 0031); and where the instructions for recommending at least one potential loudspeaker location is based on weighting the plurality of statistical analyses (Rabinowitz et al, para 0031).

Re Claim 70, the combined teachings of Rabinowitz et al and Tagami et al disclose the machine readable medium of claim 68, where the statistical analysis ranks the predicted transfer functions based on at least one metric (Rabinowitz et al, para 0031), and where the instructions for recommending a configuration comprise

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instructions for recommending at least one potential loudspeaker based on ranking the at least one metric (*Rabinowitz et al, claim 1*).

Claim 71 has been analyzed and rejected according to claim 42.

Claims 73-75, 77 & 79-80 have been analyzed and rejected according to claim 1.

Re Claim 81, the combined teachings of Rabinowitz et al and Tagami et al disclose the audio system of claim 1, where the criterion is selected from the group consisting of flatness, consistency, efficiency, and smoothness (*Tagami et al, figs. 3-4; col. 7, lines 50-67; col. 8, lines 17-53: the equalized audio function is analyzed by utilizing various criterion as disclosed in figs. 3-4*).

Claim 84 has been analyzed and rejected according to claim 81.

Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GEORGE MONIKANG whose telephone number is (571)270-1190. The examiner can normally be reached on 9:00-5:00 EST Monday-Friday, Alt Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian C. Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/GEORGE MONIKANG/
Examiner, Art Unit 2614

12/28/11

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